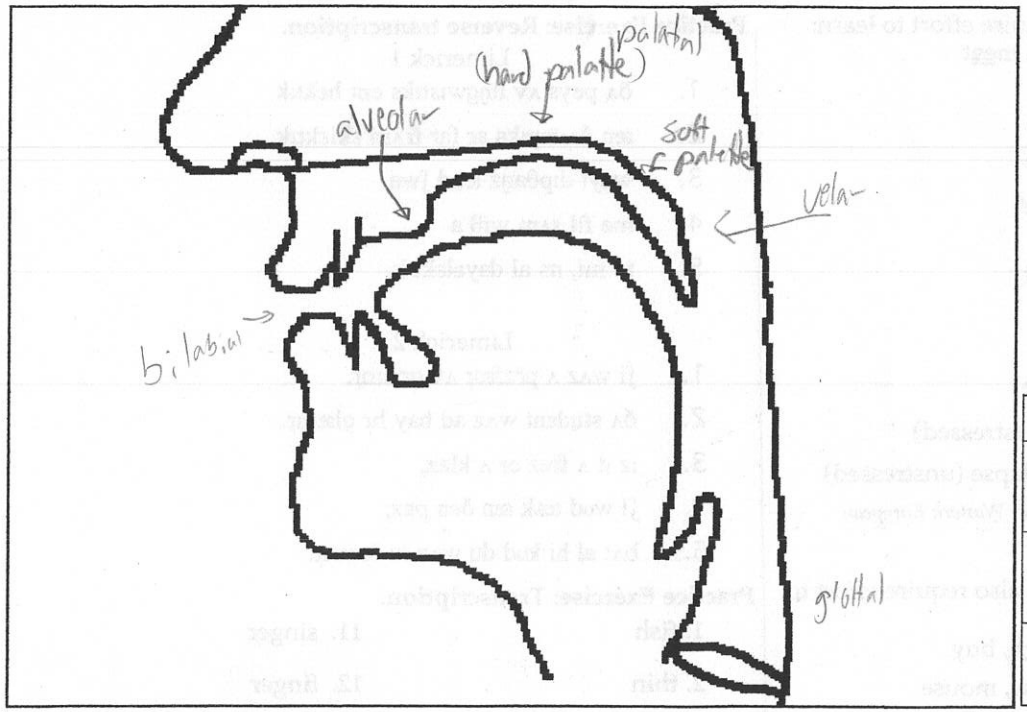


	Front		Central		Back	
High	i	(beat)			u	(boot)
	ɪ	(bit)			ʊ	(foot)
Mid	e	(bait)	ə	(sofa)	o	(boat)
	ɛ	(bet)	ʌ	(but)	ɔ	(caught)
Low	æ	(bat)				
					a	(cot)

MANNER	VOICING	PLACE OF ARTICULATION							
		Bilabial	Labio-dental	Inter dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Stops	–V	p			t			k	ʔ
	+V	b			d			g	
Nasals	+V	m			n			ŋ	
Fricatives	–V		f	θ	s	ʃ			h
	+V		v	ð	z	ʒ			
Affricates	–V					tʃ			
	+V					dʒ			
Liquids	+V				l r				
Glides	+V	w					j		
Flaps	+V				ɾ				

A Guide to Learning the IPA
for the Native Speaker of American English

Symbols in parentheses are often-used variants

1. Consonant symbols that require little effort to learn, as they correspond nicely to their English orthographic counterparts:

[b] .....baby, cub, bubble
[d] .....day, road (but not ladder)
[f] .....fall, cuff, phonograph, cough
[g] .....gone, leg, goggle, linger
[h] .....hello, happy, whole
[k] .....cat, look, character, kick
[l] .....light, still
[m] .....mouse, thumb, shimmer
[n] .....nose, can, sunny, sign
[p] .....pink, cup, apple
[r] ([ɹ])...right, car, error
[s] .....see, miss, peace, psycho
[t] .....teeth, cut, attire (not butter, button)
[v] .....very, love
[w] .....wide, away, cow, _one
[z].....zoo, buzz, was, dishes, Xerox

2. The one consonant symbol that looks like an English letter but "isn't" in IPA:

[j] ([y])..yes, yellow, onion, buy, _usual

3. IPA consonant symbols not used in English orthography:

[ʃ] ([š]) ..... shoe, push, machine, nation
[ʒ] ([ž]) .... pleasure, azure, vision
[θ]..... think, bath
[ð]..... them, bathe
[tʃ] ([č])..... church, watch
[dʒ] ([ǰ])... judge, George
[ŋ]..... sing (notice no [g], just [ŋ]), finger
[ʔ]..... uh-oh, button, mitten
[ɾ] ([D])..... butter, ladder

4. The vowels, which require effort to learn:

*[i]..... heed, me, meat
[ɪ] ..... hit, rip
*[e]..... make, lay
[ɛ]..... bed, dead
[æ]..... cat, happy
*[u] ..... to, food
[ʊ] ..... push, foot
*[o]..... go, low
[ɔ] ..... law, paw
*[a] ([ɑ]) ..... father, hot
[ʌ] ..... truck, but (stressed)
[ə] ..... about, collapse (unstressed)

**If you know Spanish, or some other Western European language, these should make sense*

5. The diphthongs, which also require effort to learn:

[aj] [ay] [ai] [aɪ]..... high, buy
[aw]..... how, mouse
[ɔj] [ɔy] [ɔi] [ɔɪ]..... toy, oink

6. Special sounds -- syllabic consonants:

[ər] [ɻ] [ɚ].. teacher, bird, hurt
[l̩]..... bubble, huddle
[n̩]..... nation

7. IPA symbols that look like letter used in English, but that do not represent English sounds:

c..... voiceless palatal stop ≠ [k] or [s]
q ..... voiceless uvular stop ≠ [kw] or [k]
x..... voiceless velar fricative ≠ [ks] or [gz]

Practice Exercise: Reverse transcription.

Limerick 1

1. ðʌ peys ʌv lɪŋgwɪstɪks ent hɛktɪk
2. æn ðʌ tapɪks ar far frʌm ɛklɛktɪk.
3. wayl dɪpθaŋz ænd ʃwa
4. me fil sʌm wɪθ a
5. tu mi, ɪts al dayəlɛktɪk.

Limerick 2

1. ʃi wʌz ʌ prəfɛsɻ ʌv græmɻ.
2. ðʌ student wʌz ad bay hɻ glæmɻ.
3. ɪz ɪt ʌ frez ɔr ʌ klaz,
4. ʃi wʊd æsk æn ðɛn paz;
5. bʌt al hi kʊd du wʌz tu stæmɻ.

Practice Exercise: Transcription.

1. fish
2. thin
3. then
4. hitch
5. taste
6. sheep
7. try
8. life
9. hut
10. laugh
11. singer
12. finger
13. semantics
14. crackers
15. photographer
16. attitude
17. music
18. changes
19. pneumonia
20. quiche

Nov. 3, Session B - 9:00 am

Discuss the "word-object mapping problem"

Perceptually constrained statistics in toddler's word learning

How do children learn words?

Cluttered environment creates - referential uncertainty

up to 14k at yr 6

"World - learning vacuum cleaner"

Two solutions to -

1 happens in select few HQ events, not in cluttered environs

2 statistical learning

1 Toddler - can - focus on specific objects in view

referential trapping

2 Multiple naming events - cross-events / use stats to elim uncertainty

- Cross-correlate naming events to find common elements

Parting not in opposition, but together

~~Impact~~ Record toddler view, parent speech

What visuals correspond to naming events?

- Quantify - image size of target relative to distractors

- prob. that stimulus of visual & audio ~~[illegible]~~ correlate

Research Q's

- Role of quality of individual events
- Combined role of quality and stats
- How can quality be incorporated

novel named objects "wawa" "mapoo"

~~[illegible]~~

6 nobjects - 4 trials 3 each

Toddler view more focused on single object views - dominate occludes other objects

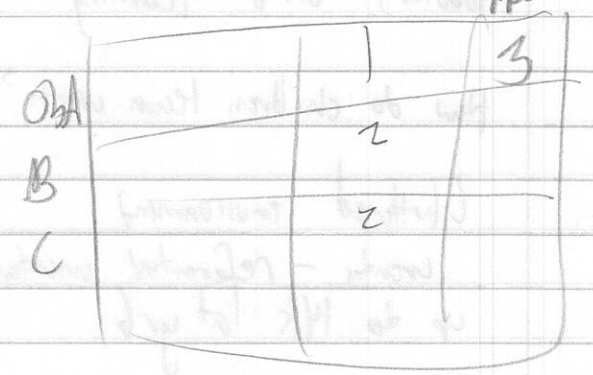
3 Alt. - forced - choice test to identify the objs.

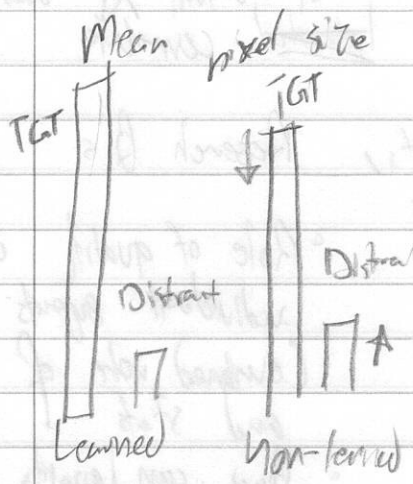
Best quality events - obj largest in vision

Worst naming events - distractors larger in view - non learned have worse naming events

Co-occurance matrix

habbie simple wawa mappo



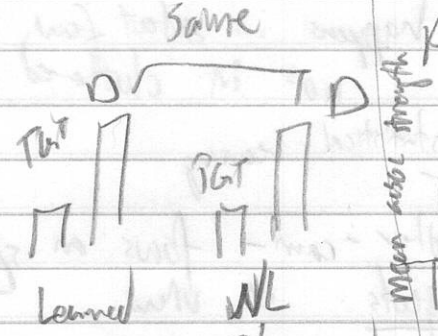


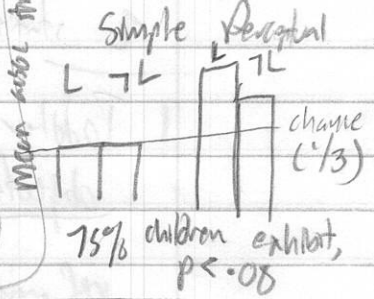
Best

Assoc - strength

Simple - 0.36

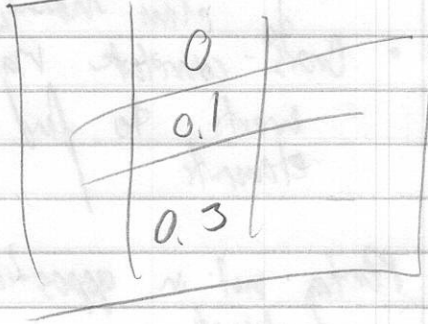
Perceptual - 0.54





75% children exhibit, $p < .05$

perceptual uses proportion of pixels



on screen for prop matrix

Perceptual Stats - "in the moment" quality of events

Q - only talk about occurance, not use
How does the word's content / context affect perceptual correlates?

A - seems not to matter, but hasn't been fully investigated

Q - the child is hypothesis testing!
Have you looked at the child's production? In a dialogue?

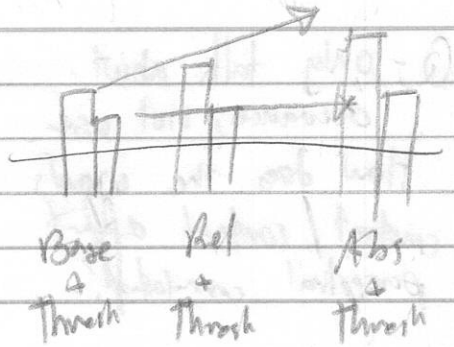
A - haven't looked at it yet - is the kid testing or mimicking
- see the child's guess using their production

Q - image size -
how does size of objects affect this?
~~A~~ your objs were all the same size.
How do you measure focus?

A - it's about comparison to baseline, not necessarily size visually.

~~Accidentally left Flux on~~

- within moving events, not all events/obj.s are created equally



Relative Model

Probabilistic - fixed sys of weights for events

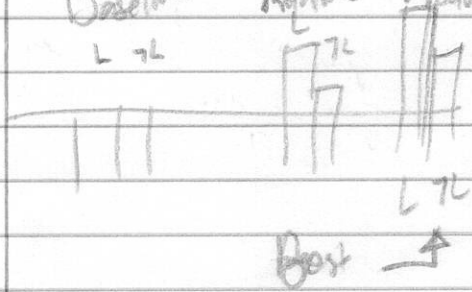
more info

Absolute Model

Winner takes all

Only largest pixel-prop gets a point

less info

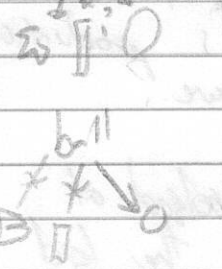


New model w/ threshhold model - 3/0 vision dominance needed to count - added to prev 3

Image best perceptual equality

1. In the moment + triple co-occurance failed

2. How in moment info incorp can be v. simple



3. There are multi ways in moment qualitative can be implemented, but it effectively comes down to how to remove info - how much info to add to starts / how much to exclude?

Q - child engaged v. passive recipient?

Why is that? We need to model attention - how do you model the child's own activity into learning?

A - tweed tactile info - holding. Higher correlation, more predictability than visual

Active hypothesis testing and occurance tracking work together in cross-situational word learning

- left flux on

Reducing uncertainty over time - aggregate events, form coefficacy matrices

	pig	rabbit	dog	cow
pig	1	1		
rabbit		1	1	
dog		2		1

form initial hypothesis, iteratively refine this

Interleaving words can distract

"correct" - reinforcement hypotheses are easier remembered than incorrect

Used Mechanical Turk

Show abstract shapes, try to guess.

Try this.

Show and previous another

Show "wrong" choice and another

higher prop

Maintain or break hypothesis

Worse prop

Compound chains of c/v combs -

"CV" "CCV" "C" ?